ENVIRONMENTAL FEDERALISM AND U.S. MILITARY INSTALLATIONS: A FRAMEWORK FOR COMPLIANCE

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INSS Occasional Paper 14

Environmental Security Series

June 1997

USAF Institute for National Security Studies
U.S. Air Force Academy, Colorado

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FOREWORD

Environmental security issues have emerged as one of the most important non-traditional security concerns of the post-Cold War era. This paper traces the development of the increasingly complex and stringent environmental standards found in the United States. It then focuses on how the U.S. military can best comply with these standards at *both* the national and state levels. Dr Smith finds that many of the most important environmental compliance issues for the U.S. military have devolved from the national to the state level. He uses case studies and an environmental capacity/motivation model developed by James Lester to categorize and predict state environmental policies. Dr Smith argues that the military must take environmental federalism into account in order to craft successful compliance strategies and organizations.

INSS is pleased to publish this second *INSS Occasional Paper* in the Institute's environmental security series, with funding from the Army Environmental Policy Institute located at the Georgia Institute of Technology. This paper should be very useful and interesting to all who deal with environmental compliance issues.

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EXECUTIVE SUMMARY

Recent regulatory trends and political decisions have resulted in devolution of environmental regulation responsibility from the federal government to the states. The resulting compliance situation for the military is one of multiple bureaucracies, layered regulations, duplicated reporting requirements, and conflicting mission priorities, all in a "business" in which there is an inherent potential for significant environmental damage. The military official charged with environmental compliance is responding to many masters and pressures. This paper suggests a compliance strategy and organization to respond to environmental devolution and federalism.

The context of environmental regulation policy today is incremental (progressing with advances in science and politics through a series of increasingly broad regulatory requirements); fragmented (between pollution mediums—air, water, waste—and between executive agencies, legislative committees, courts, interest groups, and state agencies); and federal (with national, state, and local governments sharing responsibilities for environmental standards and enforcement).

Empirical studies of state regulatory policy find that political factors, such as party control of the governorship and the legislature, bureaucratic capability, and recent changes in state population, best explain state actions. Economic factors (state wealth and competition with other states, the economic significance of the polluting industries) are also important influences. Overall, state environmental policy can be explained by the severity of the state's pollution problem, the wealth of the state's population, the partisanship of state politics, and the organizational capacity of the state government.

Attempts to specify an integrated model of state policy actions are of mixed utility, but a model by James Lester that focuses on state bureaucratic capacity and environmental motivation appears to have utility for predicting state enforcement on military installations. Field interviews at military bases

in four states (California, Colorado, Oklahoma, and Wyoming), each representing one of Lester's four policy making and enforcement categories, demonstrate that the model is highly accurate in characterizing state actions.

Since environmental federalism is here to stay, military environmental managers should devise a compliance strategy which adapts to local demands while also ensuring continuing mission accomplishment. Armed with current knowledge of state motivation and capacity for environmental regulation, the strategy must incorporate continuity, coherence, and communications. Continuity is essential in the face of incremental environmental policy changes, coherence helps bridge the fragmented policies and organizations that characterize environmental enforcement today, and communications are needed to help state regulators understand the unique demands of the military mission while also keeping base environmental managers informed of state concerns.

As environmental regulation is characterized by layered federal and state regulations increasingly enforced by the states, a state-centered compliance strategy might best be implemented by a military structure built around the principle of centralized control and decentralized execution. Service commands are not generally helpful as intermediaries between base and service officials and should be removed from the environmental chain of command. Total centralization of bases under service headquarters would limit the local adaptability needed in today's decentralized situation. Conversely, total decentralization to the base level, while consistent with the management structure chosen by the National Park Service, is inconsistent with military culture and tradition. With national standards and state enforcement, a mix of national input adapted to fit local base conditions would best combine coherence with adaptability.

Finally, continuity in local base management is also essential. Base-level environmental managers must have tenure to lend the continuity and coherence which the strategy calls for. Military tour extension or reliance on civilian personnel in these positions would seem to be indicated. Research

also indicates that state and local regulators tend to lump all military installations into one category, so tenured base managers must communicate with each other to learn of issues and precedents which may affect them.

The states will continue to sit at the center of American environmental regulation. Knowing what drives state policy and action, understanding how one's state combines motivation and capacity to determine its particular enforcement, and adapting national direction to form a continuous, coherent base compliance strategy will allow bases to complete their military missions within environmental constraints. All of this requires constant monitoring, analysis, adaptation, and communication. Bases carry out national policy mandates, but they are also tenants within state environments. They must adapt to both sets of demands.

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Environmental Federalism and U.S. Military Installations: A Framework for Compliance

Introduction

Recent regulatory trends and political decisions have resulted in continuing devolution of environmental regulation responsibility from the federal government to the states. This devolution presents all regulated enterprises with a more complex environmental compliance situation, one with potentially significant implications. Obviously, the impact is minimal on the single-site, single-pollutant small business, and it is much greater on the multiple-site, multiple-pollutant complex business. However, it presents perhaps an even greater challenge to the US military, which operates bases and posts throughout the United States, most of which include a community, many hosting a commercial area, and each focusing around a military operational mission with its uninterrupted accomplishment being a matter of national security concern.

The resulting compliance situation for the military is one of multiple bureaucracies, layered state and federal regulations, duplicated reporting requirements and channels, and conflicting mission priorities—all in a "business" with inherent potential for significant environmental damage.[1] The military official charged with environmental compliance is serving many masters and responding to many pressures. Does this mean that the military services must devolve compliance strategy-making and implementation to each and every installation to deal with its own set of federal, state, and local concerns? Or must the services establish 50 different state compliance structures to address the regulation regime at the state level? What is the trade-off between national security concerns and local environmental

pressures, and what is the balance between federal direction and local implementation? In short, how does the military comply on compliance?

This paper suggests a compliance strategy and organization, or at least a manageably small set of compliance options, for the military to respond to environmental devolution. First, we review the context of environmental regulation to identify its key characteristics today. Next, within that context, the paper addresses the central factors that determine state environmental regulation and enforcement. Three state implementation models are discussed as vehicles to simplify and group the states for use in designing military environmental compliance strategies. The results of field interviews and analysis of one of these models are presented to confirm its applicability. Finally, we consider the implications of this analysis of environmental enforcement under devolution, along with some preliminary recommendations for designing a military compliance strategy and structure for the twenty-first century.

Context: Environmental Regulation in the United States

Environmental regulation has become a major factor in American politics and public policy. The agenda was set by both a forceful recognition of the problem, including several environmental disasters, and the mobilization of political activism during the 1960s. The first generation of federal regulation was enacted by Congress in the 1960s and was followed by broader, more stringent regulation in the 1970s. After a pause, caused both by politics and the need for science to catch up with policy, new and even more demanding regulations were enacted in the 1980s. The 1990s are seeing the enforcement of these regulations devolve increasingly to the states.

Figure 1: Major Federal Environmental Laws[2]

1963	Clean Air Act
1964	Wilderness Act
1965	Highway Beautification Act
1965	Water Quality Act
1967	Air Quality Act
1968	Wild and Scenic Rivers Act
1969	National Environmental Policy Act
1969	Endangered Species Conservation Act
1970	Clean Air Amendments
1970	Water Quality Improvement Act
1972	Federal Water Pollution Control Act
1972	Marine Mammal Protection Act
1972	Marine Protection, Research, and Sanctuaries Act
1972	Coastal Zone Management Act
1972	Federal Environmental Pesticide Control Act
1972	Noise Control Act
1973	Endangered Species Act
1974	Safe Drinking Water Act
1976	Federal Land Policy and Management Act
1976	National Forest Management Act
1976	Resource Conservation and Recovery Act
1976	Toxic Substance Control Act
1977	Clean Air Act Amendments
1977	Clean Water Act
1977	Surface Mining Control and Reclamation Act
1978	Outer Continental Shelf Lands Act Amendments
1980	Comprehensive Environmental Response, Compensation, and Liability Act
1980	Alaska National Interest Lands Conservation Act
1984	Hazardous and Solid Waste Amendments
1986	Safe Drinking Water Amendments
1986	Superfund Amendments and Reauthorization Act
1987	Water Quality Act
1988	Endangered Species Act Reauthorization
1988	Federal Insecticide, Fungicide, and Rodenticide Act Amendments

American environmental regulation today is characterized by incrementalism, fragmentation, and federalism.

Environmental legislation and regulation have developed in increments since the 1960s. Major American environmental laws enacted from the 1960s through the 1980s are summarized in Figure 1. The 1960s saw environmental issues firmly established on the federal policy agenda, but the

substance of the legislation was relatively thin. Technical knowledge was still lacking, and institutional capabilities to deal with these ill-defined problems were often nonexistent. The federal government acted in response to the growing popular environmental movement, but it took only very cautious first steps. This set the stage for the 1970s—the environmental decade.

The early environmental movement was spurred both by the general appeal of the topic and some highly visible environmental disasters in the late 1960s, as well as by the general spirit of political activism of the 1960s. It had won broad support and popular acceptance by Earth Day 1970. The politicians recognized and seized this situation early in the decade. President Nixon sought to place himself at the center of environmental issues in an attempt to preempt support for his likely 1972 rival, Senator Ed Muskie, the congressional champion of environmental legislation. With the President and a key Senator from the opposite party both supporting environmental action, the government responded with a series of environmental acts.[3] Figure 1 points out the power of election years—1972 and 1976 in particular.

The 1970s institutionalized environmental regulation, but also pointed out many problems in implementing those regulations. In some cases the lack of technical knowledge about pollutants and their effects, coupled with delays in developing technical solutions to the problems, required amending the regulation. In other cases institutional shortcomings led to the need to change requirements. In any case, problems with 1970s regulation plus the anti-regulatory ideology of the Reagan Administration put new environmental regulation on hold for much of the 1980s. Only legislation addressing the extreme problems of toxic waste, along with a few amendments to the 1970s standards, succeeded in clearing congressional and administration hurdles into law.[4]

The 1980s debate centered around both ideology and cost. Republicans, pushing Reagan's New Federalism concepts, backed an ideology of deregulation—removing federal government oversight from a number of regulated sectors and areas. Democrats were generally successful in keeping

federal environmental regulation in place, but at the time all sides began to recognize its high costs, both to government and to regulated businesses. This debate carried over into the 1990s, particularly into the 104th Congress and its antiregulatory ideology.[5] As Figure 1 points out, environmental regulation of most pollutants is now in its fourth through sixth generation—it is incremental. And, as Figure 1 also shows, it is fragmented by pollutant category.

Environmental regulation enforcement and oversight is fragmented within both science and the American federal system. Environmental laws and regulations are designed to address the specific problems of various mediums of pollution—air, water, waste. They are further disaggregated by the source of the pollution or its severity—point sources or nonpoint sources for water; stationary sources, auto emissions, and acid rain for air; solid waste, toxic waste, or radioactive waste; etc. This fragmentation carries over into the organization of the regulatory agencies.[6]

Separate offices, agencies, and committees regulate air, water, and waste, with further subdivisions such as drinking water versus ground water versus waste water. In the executive branch, for example, there are today over 30 federal agencies with environmental "turf," divided between 11 cabinet departments plus the Environmental Protection Agency (EPA).[7] And while the EPA was created to consolidate executive branch regulation of pollution, it was created by executive order, not law.[8] "In political terms, this means that the EPA is not a single gorilla, but a whole family of gorillas, one for each law and each program."[9]

Likewise, the committees with oversight responsibility number in the teens for each house of Congress.[10] And the federal court system addresses environmental law decisions throughout its 55 divisions, with jurisdiction lying in over 100 separate courts.[11] This dispersed policy community is matched by an equally diverse community of organized interests that reflects diverse memberships, strategies, and agendas.[12]

Finally, the states each address environmental protection and regulation in their own unique fashion, with health agencies, mini-EPAs, or environmental "superagencies" charged with enforcement of federal and state standards.[13] Some states delegate enforcement to local agencies for specific pollutants or mediums. In some cases, these local agencies have extensive experience in environmental regulation. For example, Los Angeles County, California has been regulating air quality since 1948.[14] Many states also separate endangered species and historic preservation regulation from pollution regulation, creating even more agencies which the military installation program must address. The environmental landscape is covered with agencies, interests, and shared and overlapping responsibilities, and the military installation environmental program manager serves many "masters."

Within this fragmented landscape, federalism has today become a, if not *the*, central factor in American environmental regulation and enforcement. Environmental regulation began in the states before it became a federal issue, and early federal efforts set national quality standards which were enforced at the state level. During the 1970s the federal government began enforcing many of its own standards, but the pendulum swung back toward the states during the 1980s and the Reagan Administration. Under the administrative umbrella of "partial preemption," which requires states to enforce federal standards, responsibility has flowed from Washington to the states.[15] Today all 50 states enforce federal air quality standards, 48 states enforce federal waste regulations, and at least 38 implement federal water quality standards.[16] This devolution, now largely without the federal funding which had traditionally accompanied such enforcement shifts, continues at an accelerated pace into the mid-1990s. The states have become key players in environmental regulation.

States and Environmental Federalism

Only a few years ago American state government was considered the weakest link in the federal-state-local chain. That has now changed. Today states are often characterized as engines of policy innovation and positive change, and "the notion of states as laboratories for policy experimentation is about to receive a thorough test."[17] The reformation of state legislatures and the accompanying professionalization of state bureaucracies together have made states full partners in today's intergovernmental public policy process. States are also now capable of autonomous policy initiation and action. The combination of increased state capability, federal devolution of policy implementation, and cutbacks in federal funding for the increased state policy roles has created a complex mix of state actions and policies. State policy decisions are centered around economic issues and concerns, and states today are in direct economic competition with one another.[18] Yet economic factors alone do not account for state and local environmental enforcement.

A recent survey of the empirical literature on what determines state decisions on redistributive policy issues, including health and safety issues (which are closely related to environmental issues), found that the three key determinants of state policy decisions are unified party control of both the executive and legislature, a sizable and strong bureaucracy, and significant recent changes in the state population. The next tier of influence came from economic competition from neighboring states, the state fiscal condition at the time of the decision, the ideology of the state representatives (as determined by party affiliation), and demand, particularly as expressed by organized interest groups. Third in importance were interparty competition and per capita income.[19]

But do these same factors apply specifically to environmental policy and its regulation? A growing body of literature examines environmental federalism, much of it consisting of empirical studies of one medium or policy area.

Air: Most studies of state policy and regulation on air pollution hypothesize influence from specific economic, political, or interest group

factors. State regulatory bodies were found to be less responsive to short-term political forces than were federal EPA regulators (although inconsistent when viewed across states), more effective when dealing with point sources (smokestacks) than with mobile sources (automobiles), and much more sensitive to the polluting industries which represent a significant contribution to the state economy.[20] A recent study found interactive influences from a number of factors. The more strident and effective state air regulation programs were associated with wealthier states, those with more professional state legislatures, and strong polluting industries (more severe pollution problems). A high dependence on fossil fuel industries for jobs and tax dollars was found to be the primary deterrent to the strength of state regulation. Ideological factors and interest group activities were only minor influences on state regulation of air quality. The highest aggregate effect was both direct and indirect economic influences.[21]

Water: Similarly, state water regulation was found to be most influenced by the strength of mining industries and agriculture in the state (both are primary polluters, but agriculture demands stronger regulation to ensure soil and water quality while mining seeks regulatory relief) and by the strength of liberal political interests in state politics. General economic factors such as state wealth, state government professionalization, and interest group activities have less influence on regulation, but are still important inputs to water regulation in the states.[22]

Waste: Waste regulation is perhaps the most complex area of state environmental policy. Many observers believe that the severity of the state problem determines to a large extent the level of state regulatory decisions and actions, and studies have confirmed that hypothesis.[23] At the same time, this is an area where state regulatory agencies are seen as prone to being "captured" by the polluting industries because of state dependency on jobs and taxes. Indeed, industry siting decisions are shown to be influenced by the regulatory climates of states competing for those industries, and interstate competition is a significant factor here even though the uniform federal

standards were designed in part to "level the playing field" between the states.[24] Further, industry does strongly influence state expenditures on wastes, and industry appeals have been shown to delay state actions.[25] Federal funding, and the resulting federal influence over state actions, can overcome much of the influence of local industries, however. In this complex area interest groups often carry considerable weight, and political factors are more significant tiebreakers than are the economic factors.[26]

The "bottom line" from these studies is that each environmental medium has its own unique policy parameters, but each includes significant input from federal oversight, state political factors, complex state economic factors, and state organizational capacity.[27] This combination of "vertical" factors (federal-state intergovernmental) and "horizontal" factors (state and interstate) reflects the incremental, fragmented, and federal nature of environmental regulation today.[28] And recent attempts to designate an integrated model of environmental federalism, while valuable first steps, do not significantly alter the list of state and federal political, economic, and organizational inputs.[29]

So the literature points to a number of influences and conditions which help determine state policy making and implementation for environmental regulation. Trying to put these pieces together, Lester and Lombard point out four explanations for state environmental decisions which dominate that literature. These are: 1) the severity of the state problem (increased pollution which results from rapid growth, industrialization, and increased consumption); 2) the wealth of the state polity (wealthier populations will spend more on environmental protection); 3) the partisanship of state politics (Democrats tend to be more environmentally strident than Republicans); and 4) the organizational capacity of the state (the more "professional" state legislatures and bureaucracies will be more willing to support strong environmental policy than others). They acknowledge that each of these arguments has found support, but argue that a broader intergovernmental model may be needed to fully capture the complexity of

state decisions and actions.[30] In the meantime, we do have a few models which attempt to categorize and rank the states as to their actual or likely performance as environmental regulators.

Implementation Models

As indicated, there is no single, comprehensive theory or model of state environmental regulation. However, studies do suggest some enforcement groupings, which rank and categorize the states according to their regulatory effort and stridency, might contribute to formulating a compliance strategy for the military. These models group the 50 states based on environmental spending, on environmental innovation, and on organizational capacity and motivation.

Federal spending still exceeds state spending on the environment, but it has decreased since 1977, making state spending increasingly important.[31] The "wealth argument" holds that, particularly as federal spending decreases, a state's commitment and effort can be judged by its spending on environmental programs. States are ranked by their total spending, per capita spending, and environmental spending as a percentage of state budget.[32] This ranking, however, is difficult to use as a guide to state enforcement programs or actions because it is not finely enough disaggregated to identify specific state efforts. For example, Wyoming is ranked first or second in the nation in both per capita spending and environmental spending as a percentage of state budget. This is misleading in that the figures include spending on "natural resources," which in Wyoming includes significant expenditures for mining reclamation and fish and game management, including promotion of state guides, fishing, and hunting.[33] This is important "environmental" spending, but it is not directly related to our focus on state environmental enforcement on military installations. To determine how Wyoming, or any other state, is likely to regulate military activities, other models must be examined.

Another category of ranking/grouping models for state environmental efforts is based on state and local innovation in environmental programs. This approach offers possible utility for military installations because the level of state initiative would seem to indicate the predisposition of the state to add its own regulations to existing federal standards. One problem with the most widely reported innovation models, however, is that they include ranking factors beyond those of interest to the military installation. For example, the two primary rankings include specific emphasis on energy conservation promotion and on recycling programs well beyond many military base efforts. They also include private, nongovernmental initiatives, which may mask the strength and direction of governmental regulatory efforts.[34]

A third model groups states by a combination of organizational capacity and motivation. The political, fiscal, and managerial capacity of state institutions to accept and implement federal programs, as well as their own initiatives, is certainly a critical factor in assessing the strength of state efforts. Motivation is also key to predicting and measuring the state's willingness and ability to overcome the influence of economic competition and the inevitable calls to delay or reduce enforcement efforts which raise the costs of doing business in the state.[35] These factors, internal to the states themselves, allow grouping states in a way that is very meaningful to the military environmental manager—they predict specific state actions and limitations in environmental regulation and enforcement.[36]

Based on separate studies and rankings of the states on the capacity and commitment dimensions, Lester identifies the states as falling into one of four categories. His first group, the "progressives," combine a high degree of environmental commitment with strong institutional capacity—they have the motivation and capability to enforce strident environmental standards. These states will fully enforce federal standards, and they will likely add additional state standards in many areas. The second group, the "strugglers," combine a high degree of commitment with limited institutional capacities—they want to be forceful in their regulation but have only limited resources to pursue their

environmental goals. These states should fully enforce federal standards, but will be slower and less innovative than the "progressives" in adding their own environmental programs.[37]

Figure 2: Lester's Capacity/Motivation Model[38]

Progressives: High capacity and motivation

California	New Jersey
Florida	New York
Maryland	Oregon
Massachusetts	Washington
Michigan	Wisconsin

Strugglers: Limited capacity, high motivation

Colorado	Montana
Connecticut	Nevada
Delaware	New Hampshire
Hawaii	North Carolina
Idaho	North Dakota
Iowa	Rhode Island
Maine	Vermont
Minnesota	

Delayers: High capacity, limited motivation

Alabama	Louisiana	South Carolina
Alaska	Missouri	Tennessee
Arkansas	Ohio	Texas
Georgia	Oklahoma	Virginia
Illinois	Pennsylvania	West Virginia

Regressives: Neither capacity nor motivation

Arizona	Nebraska
Indiana	New Mexico
Kansas	South Dakota
Kentucky	Utah
Mississippi	Wyoming

Group three, the "delayers," have the institutional capacity to support a strong environmental program, but lack the commitment to go beyond federal standards. Many of these states have a strong energy industry presence in the state economy. They are predicted to implement federal standards slowly and to not advance beyond the federal requirements. Finally, group four, the "regressives," lack both the capacity and commitment to environmental ends. They may not even fully implement federal standards, according to Lester, and will not take any further environmental actions.[40]

The utility of Lester's grouping is already apparent when you note that Wyoming was ranked first or second in spending, and Lester places the state in the "regressive" category of expected state action. Spending alone may be an inadequate measure. The capacity/motivation model provides significant information for designing a state compliance strategy for military installations.

Limited testing of this model was conducted during the summer of 1996 at military installations in four states, one from each of Lester's four categories. The states and installations of focus were California (Travis Air Force Base), Colorado (Fort Carson and the Air Force Academy), Oklahoma (Fort Sill and Altus Air Force Base), and Wyoming (F.E. Warren Air Force Base). The environmental regulation situation and enforcement experience were surveyed for each base. The general results are summarized below and serve to confirm the Lester model predictions.

Four Case Studies

Wyoming: A "Regressive"

The expectation for environmental regulation enforcement in Wyoming, according to the Lester model, is for relatively minimal enforcement. Wyoming is hypothesized to lack both the institutional capacity and the motivation for strident enforcement. That is fairly close to the experience of F.E. Warren Air Force Base. The state enforces federal

standards, but does not do so with any perceived stridency except in the area of groundwater pollution. Perhaps because groundwater is a critical asset in the arid and semi-arid West, state regulators are "cracking down" on this issue. In other areas, such as air pollution—where the base was told "don't be too hard on yourself" in a recent self inventory—the regulator-regulated relationship is characterized as a "partnership." At the policy level, the state seeks informal input from base environmental managers in drafting enforcement implementation standards, and there is some movement of personnel from military environmental management positions into state policy-level positions upon their retirement from military service. Base personnel felt no pressure from any local organized environmental groups, and they anticipate no real changes in their compliance situation in the foreseeable future. The base mission (missile operations management) was not seen as threatened in any way by environmental problems or regulatory pressures.

F.E. Warren missile operations also include sites in Colorado, a "struggler" state expected to enforce environmental regulation more vigorously, according to the Lester model. This is the experience of the F.E. Warren environmental regulators, who noted that the Colorado regulators were "much tougher on water and waste regulation." The Lester model is supported by the experience of the F.E. Warren environmental managers.

Oklahoma: A "Delayer"

The Lester model predicts that Oklahoma, while institutionally capable of aggressive enforcement of either state or enhanced federal standards, will not have the motivation to go much beyond federal requirements. That, again, is fairly close to the experience of the two military installations surveyed. The Oklahoma Department of Environmental Quality (ODEQ); a relatively new organization which combines environmental regulatory functions formerly residing in the Departments of Pollution Control, Health, and Natural Resources; was characterized as active and able in its regulation, faithfully implementing federal standards. At the policy

level, however, capable administrators do not advocate regulation beyond those federal standards. For example, federal water quality standards are still enforced by the EPA since the state of Oklahoma has made no move to assume that responsibility (water regulation authority is transferred to a state largely at its option). Military environmental managers report that they can work with the state regulators—that they develop and foster a fairly close one-on-one business relationship with their regulators—and that the stridency of the regulation is largely a function of the specific situation at hand.

The most frequent "complaint" voiced by military environmental managers was that, due to higher pay scales in private environmental jobs, the state regulators tend to turn over with some frequency, and new relationships must then be fostered. However, the Fort Sill managers maintain a close working relationship with individuals at the policy level, whom they visit monthly to gain insight into any pending changes and to maintain an open communication link. This relationship was credited for educating regulators on the unique issues and problems of the Fort Sill mission, and was seen as central to long-term maintenance of the cooperative relationship between the base and the state regulators. Altus Air Force Base environmental managers had also recently instituted a practice of quarterly visits to the ODEQ. Both installations characterized their relationships with local leaders, citizens, and groups as "friendly and productive." No significant threats to base missions (Fort Sill—artillery training, Altus—flight training) were experienced or anticipated.

The Fort Sill environmental management function also exercises some responsibility for Fort Chaffee, Arkansas, and for several Army Reserve facilities in Texas. Both Arkansas and Texas are classified with Oklahoma as "delayers," and that again is fairly consistent with the experience of the Fort Sill environmental staff. The Fort Chaffee situation is somewhat unique in that it is being closed as an active installation, with the majority of its real estate becoming a National Guard facility and a few acres transferring to the private sector. A combined federal/state effort, with EPA District Six

overseeing the environmental dimension, is managing this transfer. Issues arising from the transfer have been negotiated in what was characterized as a "reasonable, common sense" atmosphere. On the other hand, Texas was seen as becoming slightly more strident in its enforcement of waste regulations, but overall was characterized as not much different from Oklahoma. Lester's model seems to apply for these three states.

Anecdotal evidence also supports the applicability of the Lester model to other Group Three states. The EPA recently found that three states—Ohio, Pennsylvania, and Virginia—are "reporting only a handful of major pollution violations," perhaps because of the influence of energy industry companies within the states. While other states also "worry" the EPA, these three "delayer" states are acting in accordance with the expectations of the Lester model.[41]

Colorado: A "Struggler"

According to Figure 2, one would expect Colorado to attempt to enforce environmental standards vigorously, but to have that effort moderated by its limited institutional capacity. There is again evidence of the accuracy of this prediction. For example, the two bases surveyed here benefit from the fact that both the Denver metropolitan area and the city of Colorado Springs are air quality nonattainment zones. Significant air quality effort is focused on those areas, further limiting state capabilities for stridency elsewhere and in other mediums. The extent of the pollution problem of the mining sector, past and present, further diverts state focus from the two bases. These institutional limitations, however, also have negative implications for these installations. For example, Fort Carson has been ordered to clean up 10 waste disposal sites under deadlines and standards which the base feels are unwarranted. As Fort Carson's environmental restoration supervisor put it, "The state wants to put us in a box with these (polluted) places like the Rocky Mountain Arsenal [chemical weapons], Rocky Flats [plutonium triggers for nuclear weapons] or Lowry Landfill [unexploded bombs from World War II activities on the

range]. But we're not like that. We're boring."[42] The state did not until recently have the capability to discriminate between the significant threats of chemical weapon residue and plutonium waste, on the one hand, and oils, solvents, paint, etc., on the other, so they simply sought to enforce one set of standards and deadlines on all military waste sites. A state with a stronger institutional capability would likely find no problem in taking the time and assigning the people needed to make such distinctions and designate individualized standards and deadlines.

The military managers characterize state regulators as individually highly talented, but feel that institutionally they are limited in the role they can play and the way they play it. The state is reorganizing some of its functions, but these changes appear to be more along the lines of transferring functions between agencies, not in strengthening the agencies themselves. The assignment of added resources to these agencies, however, indicates that they will steadily increase their enforcement capabilities.

Colorado state policy and enforcement are seen as being strongly influenced by economic factors. The state, through its voluntary reporting programs, allows considerable discretion to businesses in the timing and nature of cleanup actions for self-reported violations.[43] The federal installations do not feel that they are given that much latitude. The voluntary programs do not fully apply to them since they are not likely to move their "business" to another state. Fort Carson managers are maintaining a continuing program of visits to state policy-level officials to ensure mutual understanding and to attempt to influence future interpretations of these policies.

Finally, organized interest groups are conspicuously present in Colorado, but they are not seen as "problems" by the bases. The Air Force Academy, with a relatively low polluting academic mission and flying program, has organized an Environmental Cooperation Council (ECC) which includes federal, state, and local governments, citizens, and interest groups. They meet monthly, adopting a "regional" environmental management focus,

with open communication between the military managers and the organized interests. The result is an open working relationship, conducive to cooperation or businesslike disagreement. Fort Carson, with a higher potential for environmental damage from its combat mechanized infantry operation, hosts an active Restoration Advisory Board (RAB), a Land Use Technical Advisory Committee (LUTAC) somewhat similar to the Academy's ECC, and other outreach programs and initiatives. These are seen as valuable in establishing and maintaining a "professional" dialogue, as well as in gaining local support should it be needed for challenging state demands. The bases see gradually increasing environmental pressures coming from the state as it increases its ability to match ambition with action, but they do not see their central missions as threatened in the foreseeable future.

On a more general note, beyond military installation environmental compliance, Colorado was recently "prodded" by the EPA to speed up and toughen its enforcement of hazardous waste violations. The core of the issue is Colorado's limited institutional capability—it has only five hazardous waste inspectors for 4,600 facilities which handle hazardous waste. In the 12 years since the state assumed hazardous waste enforcement responsibility from the EPA, only 1600 of those facilities have even been inspected. Those inspections have resulted in 1047 enforcement actions against 640 entities, but such violations have taken a year or more to resolve following their discovery.

Within EPA District 8, North Dakota has also been "prodded" for similar capacity-related delays; both states are institutionally limited "strugglers" in the Lester model.[45] Colorado and Idaho are also among a group of states that environmental groups have asked the EPA to decertify because state laws allow companies to avoid harsh penalties for self-reported violations. The states argue that the incentive to self-report reduces their administrative burden while still identifying and rectifying the problems.[46] However, the EPA recently imposed fines on one company 20 times larger than the state had levied, even though the company had also corrected the violation.[47] Finally, Rhode Island, another "struggler," has been warned by

the EPA to increase its institutional capacity for enforcement or lose its charter for water pollution enforcement.[48] Lester's "strugglers" are performing as predicted.

California: A "Progressive"

Lester cites California specifically, and its fellow "progressives" in general, as likely to add significant state and local environmental standards to existing federal regulations. Travis Air Force Base's experience certainly underscores that the prediction is reality. California is highly decentralized in its regulatory organization. There are air and water management regions under the state, and now hazardous waste and hazardous materials management are being devolved to local government Certified Unified Program Agencies (CUPAs). The local agencies enforce federal and state regulations, and some add their own standards as well. These regional regulators vary in their regulation just as the states do under the Lester model, but all are fairly strident in enforcing at least the federal and state standards. For example, California has added its own more restrictive standards to some federal air quality regulations, and the Los Angeles area is the single most severe nonattainment area for air quality in the nation. On a significantly bad air quality day during the Gulf War buildup, Norton Air Force Base was ordered by their local air quality region to shut down all of their aircraft power carts and associated ground support equipment. Such ground support equipment is classified as a stationary air pollution source, and local procedures called for all such sources to be shut down under air conditions such as existed that particular day. Norton was, at that time, in the process of providing significant air logistics support to the US forces in Saudi Arabia. Congress and the President have effectively waived federal sovereign immunity for environmental enforcement, ordering the bases to comply with federal, state, and local regulation, and local regulators can, thus, at least temporarily impact national security capabilities.[49] This is typical of the strident level of California enforcement.

At Travis Air Force Base itself, officials report mixed experiences with their many federal, state, and local regulators. In addition to the air, water, and waste regulators, they also deal with a county Airport Land Use Commission, a local Greenbelt Authority, and several species, wetlands, historic preservation, and other regulatory concerns. Now a CUPA has been added. Early experience here, when the local CUPA sought to fine the base for several waste areas which are still under EPA enforcement and for which the CUPA had neither responsibility nor authority, indicates that yet another learning curve needs to be climbed. The CUPA has notified the base to expect 26 visits per year to inspect 60 to 130 sites—just for hazardous waste and materials regulation.

Still, base environmental managers state that once a relationship is established, with mutual education and understanding, a businesslike atmosphere is possible. The multitude of regulatory agencies greatly complicates the establishment and maintenance of such relationships, however. Not surprisingly, the base managers report no regular contact with state policy-level institutions and officials, but instead they foster closer relationships with local political and environmental officials. They note the presence of several active local environmental interest groups, many of whom are regular and active participants in base-community boards and meetings. They see their mission (airlift operations) as occasionally limited by environmental enforcement actions, and are "concerned," at least mildly, about the long-term ability to sustain operations at this base.

Analysis and Recommendations

So what does all of this say about military environmental management? First, the devolution of environmental regulation will continue, and may well accelerate, in the near-term future. The political pressures favoring decentralized enforcement are too broadly based to reverse course any time soon. Further, national polls indicate that public opinion solidly

supports continuing environmental regulation.[50] So federal standards will likely not moderate, at least some of the states will be inclined to add their own more stringent standards, and all states will see combined federal and local pressure to enforce at least the federal standards. Added increments of fragmented regulation will characterize environmental federalism.

Therefore, those factors which the empirical literature indicates as most significant in state environmental decisions and actions take on an added degree of importance to any regulated enterprise, including the US military. Military managers must monitor and analyze these political and economic factors to anticipate and respond to changing state regulation demands. The compliance strategy adopted by the military must be aimed toward meeting legitimate federal, state, and local standards, regardless of who is enforcing those standards, within the demands of accomplishing the national security mission. Such a strategy can only be designed with detailed understanding of the context and the letter of multi-layered regulation, and any such strategy must ultimately be localized to the unique demands of state and local requirements.

The knowledge and understanding needed for an effective state-level compliance strategy require detailed monitoring and analysis of the four key factors behind most state policy decisions and actions. This monitoring and analysis is required for each state hosting a military installation. The severity of the environmental problems facing a state will not usually change in the short term. However, a particularly dangerous or extensive environmental threat may be discovered, or the media might focus increased attention on existing problems, causing increased salience of the environmental threats to the local population. Short-term motivation toward increased stridency in standards and enforcement, as well as calls to strengthen organizational capacity, could result. Similarly, the wealth of the state and its population are not given to significant short-term changes, but the level of spending allocated to environmental agencies and programs could change at any time. Significantly increased or decreased spending signals important changes in

motivation and capacity which can directly affect the stridency of state enforcement.

If severity and wealth are not generally given to short-term changes, the partisan balance of state politics can change at any election. Democratic governors in states where the Democrats also control the legislature are associated with more strident environmental policies and enforcement, while Republican control generally indicates less strident environmental action. Mixed party control is associated with intermediate-level environmental programs at the state level. Further, state bureaucratic capacity can be affected by organizational changes and budgetary changes. Realignments of state legislative committees can also affect capability. Finally, interest group activity and other motivation factors, especially economic competition with other states, particularly neighboring states, are important. All of these state factors must be monitored for their impacts on enforcement actions, and for input into the military compliance strategy and associated activities. For example, a reminder of the significant economic input which the base makes to the local economy might play into a state's economic competition equation.[51]

A military "compliance within mission requirements" strategy should incorporate three primary characteristics: continuity, coherence, and communication. In the face of incremental changes to the myriad environmental regulations and to the multiple layers of enforcement, continuity is essential to a rational and predictable management program. Without continuity, compliance actions become reactive and resemble a shotgun pattern of random responses. Second, coherence is needed to bridge the multiple and fragmented dimensions of the various environmental mediums and regulations. These many regulations and regulators exist within a single context, and a coherent military approach to planning and managing compliance actions offers a degree of simplification not possible in a reactive, fragmented response. Third, communication is essential to deal with the multiple and layered regulatory agencies which impact the base mission.

Communication facilitates educating the regulators on the unique nature and importance of the military operations while at the same time allowing the military manager to listen, learn, and anticipate regulatory changes driven by the state political economy. This mutual understanding and detailed knowledge of emerging trends allows the military manager to be proactive in base compliance programs, as well as enabling effective reaction to any unanticipated regulatory demands. The three together—continuity, coherence, and communication—are clearly essential to an effective environmental compliance strategy—one which also ensures continuous and coherent mission accomplishment.

Command Structures

Placing continuity, coherence, and communication at the heart of the military compliance strategy requires a structure which allows and fosters both national- and state-level initiatives to meet federal and state regulation standards and actions. Just as the unique capabilities and characteristics of airpower have been demonstrated to best be managed through centralized control and decentralized execution, the same command and control approach seems best suited to the unique characteristics and requirements of decentralized environmental regulation. This will require a reexamination of the existing service-command-installation chain of command.

While none of the environmental managers interviewed for this study indicated a dysfunctional amount of micromanagement from their parent command, virtually all of them indicated at least some complaint against the command level of their chain. In most cases this complaint was simply the need to educate newly assigned overseers on the specific problems and state compliance demands of their installation, as opposed to the installation and state at which that new boss had last served. In a few cases, however, command policies and practices were seen as detrimental to those base programs tailored to specific state and local compliance demands. In two cases current command actions and requirements were seen as "dangerous" or

detrimental to long-term compliance within the demands of state environmental enforcement, with this disconnect attributed to a lack of understanding of and appreciation for the base's specific situation.[52] The commands were also characterized as widely different in their approaches to base oversight and environmental compliance, which makes continuity and coherence difficult to attain at best. While the two services of the bases surveyed also differ on their policies and requirements, the major command level was clearly indicated as the level of concern in today's decentralized compliance world.

So what structural options are available? One would be to centralize all controls at the national service level, but this option would be completely out of step with the multi-layered, federalized enforcement situation the bases face today. Another would be to completely decentralize authority and responsibility to the individual installation. The National Park Service has adopted this solution to the unique local situations faced by its parks, with each park manager now largely an autonomous actor.[53] This approach not only flies in the face of military tradition and culture, but it misses the efficiencies of at least partial centralization since most of the locally enforced environmental regulations are still federal standards. National-level communication of these standards, changes in their focus or content, and at least broad guidelines as to a preferred compliance plan for these national standards would be lost with the complete decentralization of environmental management. So that leaves a combined national-local management arrangement as most fitting. The national guidelines can then be adapted and tailored to the specifics of local regulation and enforcement, with a sharing of responsibility and authority.

The commands may not readily agree to diminished authority over "their" installations, but they have little productive input to the federal-state-local environmental enforcement situation which those bases face today. They could remain in the reporting chain, as a communication conduit allowing them to monitor base actions and expenditures, but the details of national and

local compliance actions should be decided and directed by those with the knowledge and information needed to respond to locally implemented enforcement.

Other intermediate-level organizations, such as the recently established regional Department of Defense assistance teams (mirroring the EPA regional structure), may be of some utility in helping either the national or installation managers adapt to localized requirements. With expanded state direction of environmental enforcement, EPA rules and oversight must be modified for the state capacity and motivation (as highlighted in the Lester model) for a full explanation of state and local action. If regional authorities are to be of significant utility, it would probably best be as expert analysts of the various state policy initiatives within their area of emphasis. Unfortunately, the EPA regions do not conveniently align with the state environmental stridency categories, so most regional analysts would be addressing several very different types of state policy. For example, Region 4, out of Atlanta and covering the southeastern United States, includes states representing all four of Lester's categories. (See Figure 3.)

Figure 3: EPA REGIONS with Lester's Categories[54]

Region 1 (Boston)
2 Connecticut
2 Maine
1 Massachusetts
2 New Hampshire
2 Rhode Island
2 Vermont

Region 2 (New York)
1 New Jersey
1 New York

Region 3 (Philadelphia)
2 Delaware
1 Maryland
3 Pennsylvania
3 Virginia

Region 6 (Dallas)
3 Arkansas
3 Louisiana
4 New Mexico
3 Oklahoma
3 Texas

Region 7 (Kansas City)
2 Iowa
4 Kansas
3 Missouri
4 Nebraska

Region 8 (Denver)
2 Colorado
2 Montana
2 North Dakota

3 West Virginia

Region 4 (Atlanta)
3 Alabama
1 Florida
3 Georgia
4 Kentucky
4 Mississippi
2 North Carolina
3 South Carolina
3 Tennessee

Region 5 (Chicago)
3 Illinois
4 Indiana
1 Michigan
2 Minnesota
3 Ohio
1 Wisconsin

4 South Dakota
4 Utah
4 Wyoming

Region 9 (San Francisco)
4 Arizona
1 California
2 Hawaii
2 Nevada

Region 10 (Seattle)
3 Alaska
2 Idaho
1 Oregon
1 Washington

This organizational shift would also require a significant redirection of the traditional military management roles. The DOD managers would be interposed between the services and the installations, largely replacing the commands, as opposed to their current role of assistance to the installations regardless of service, and liaison to the commands. Also, the DOD may centralize national control into the joint community and away from the services, for there is no substantive reason not to do this—environmental regulation is inherently "purple." Other "purple" functional areas such as logistics, intelligence, communications, and medical affairs have been or are being consolidated under joint direction and management. With environment too, either service or joint centralization/decentralization is indicated. It remains to the services and the Department of Defense to work out the details.[55]

Centralized control but decentralized execution of environmental compliance fits the regulatory situation of the bases today, but structural arrangements and practices should not stop there. Base management should be structured to facilitate continuity and coherence. This means controlled

military tours and/or an extensive civilian presence in these key management positions. All but one of the installations surveyed for this study had civilians as the base environmental manager, with a mix of uniformed and civilian personnel involved in carrying out the base function. Environmental management today is not the place for amateurs or those "passing through" enroute to other professions or assignments. Uniformed personnel must have enough tenure to 1) learn the local situation and its unique requirements, and 2) contribute to a coherent base compliance strategy. Finally, all the various military installations in the state (or locality in those states further decentralizing to district management) must be encouraged to communicate with each other toward further coherence in the overall military response to local enforcement. Several environmental managers noted that state or local authorities looked upon all military installations as being "equal," and any action or precedent at one is likely to impact on others. Regular communication is essential to understand and plan for compliance demands.

Conclusion

Environmental federalism is here to stay. US military installations must learn to live with and adapt to environmental regulations, and complete their important security missions within the parameters of incremental, fragmented, and federalized environmental enforcement. Knowing what drives state policy and action, understanding how your state combines motivation and capacity to determine its particular enforcement stridency level, and adapting national direction to form a continuous, coherent base compliance strategy will allow bases to complete their military missions within environmental constraints. All of this requires constant monitoring, analysis, adaptation, and communication, but it can and must be accomplished. Bases carry out national policy mandates, but they are also tenants within state environments. They must adapt to both sets of demands.

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